

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant: Shikio YOSHIDA et al.
Appl. No.: NEW Group: Unassigned
Filed: April 14, 2004 Examiner: Unassigned
For: WIRELESS COMMUNICATION APPARATUS AND WIRELESS
COMMUNICATION SYSTEM

INFORMATION DISCLOSURE STATEMENT
(SUBMISSION CONCURRENT WITH THE
FILING OF A NEW PATENT APPLICATION)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

April 14, 2004

Sir:

Pursuant to 37 C.F.R. §§ 1.97 and 1.98, applicant(s) hereby submit(s) an Information Disclosure Statement for consideration by the Examiner.

I. LIST OF PATENTS, PUBLICATIONS OR OTHER INFORMATION

The patents, publications, or other information submitted for consideration by the Office are listed on PTO-1449, attached hereto.

II. COPIES

- a. ☐ This application was filed before June 30, 2003. Accordingly, submitted herewith is a legible copy of (i) each U.S. and foreign patent; (ii) each publication or that portion which caused it to be listed; and (iii) all other information or that portion which caused it to be listed.
- b. ☒ This application was filed on or after June 30, 2003. Accordingly, copies of cited US patents and patent application publications therefore are not included. Copies of foreign patent documents and non-patent literature are included.

- c. ☐ This application is a National Phase of a PCT application. Some or all of the documents listed on the PTO-1449 are not enclosed because they were cited in the International Search Report and copies should be forwarded from the International Search Authority. If copies are needed, please contact the undersigned.

III. CONCISE EXPLANATION OF THE RELEVANCE
(check at least one box)

- a. ☐ **DOCUMENTS IN THE ENGLISH LANGUAGE**

The patents, publications, or other information listed on the attached PTO 1449 are in the English language and therefore, do not require a statement of relevancy.

- b. ☒ **DOCUMENTS NOT IN THE ENGLISH LANGUAGE**

A concise explanation of the relevance of all patents, publications, or other information listed that is not in the English language is as follows:

An English language Abstract is provided for the documents not listed in the English language, thereby satisfying the relevancy requirements.

- c. ☐ **ENGLISH LANGUAGE SEARCH REPORT**

An English language version of the search report or action that indicates the degree of relevance found by the foreign office is attached, thereby satisfying the requirement for a concise explanation. See MPEP 609(III) (A) (3).

- d. ☒ **OTHER**

The following additional information is provided for the Examiner's consideration.

Also, enclosed is a Statement providing Comments on both references submitted herewith.

FEES

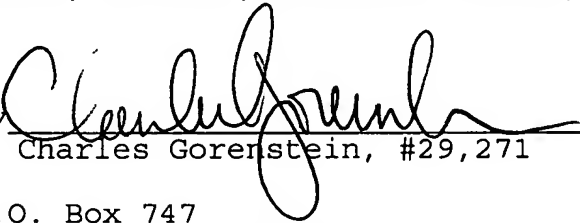
This Information Disclosure Statement is being filed concurrently with the filing of a new patent application; therefore, no fee is required.

If the Examiner has any questions concerning this IDS, he/she is requested to contact the undersigned. If it is determined that this IDS has been filed under the wrong rule, the PTO is requested to consider this IDS under the proper rule and charge the appropriate fee to Deposit Account No. 02-2448.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under § 1.17; particularly, extension of time fees.

Respectfully submitted,

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By 
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Attachment(s) : ☒ Form PTO-1449(s)
☒ Documents
☐ Foreign Search Report
☐ Fee
☐ Other: _____

(Rev. 02/12/2004)

MATERIAL FOR INFORMATION DISCLOSURE STATEMENT

(Our Ref.: T-161)

List of Prior Art References

- A. Japanese Patent Application Laid-Open No. 2000-36801,
laid-open on February 2, 2000
- B. Japanese Patent Application Laid-Open No. 2000-174726,
laid-open on June 23, 2000

Comments

Reference A

The Subject Matter of This Reference

This reference discloses a diversity receiver wherein reception is achieved by the use of a plurality of antennas and, for each subcarrier, the signals received via the different antennas are corrected and then synthesized together, or alternatively, for each subcarrier, the signal strengths or the like of the signals received via a plurality of antennas are compared with one another so that a signal being received in good reception condition is selected and demodulated.

The Distinction Over This Reference

The diversity receiver disclosed in this reference uses only one frequency band, and therefore, when the plurality of antennas are arranged close to one another spatially, the signals received by the different antennas may show similar frequency-selective fading characteristics. Thus, even through correction or synthesis, it is impossible to obtain satisfactory accuracy. By contrast, according to the present invention, data signals containing identical data can be transmitted in different carrier frequency bands. This makes it possible to select or synthesize a data signal transmitted in a carrier frequency for which the communication path is in good condition, and thus makes it possible to reduce the influence of frequency-selective fading.

Reference B

The Subject Matter of This Reference

This reference discloses a diversity receiver wherein a plurality of antennas are used and, for each subcarrier, the carrier levels of the signals received via the different antennas are checked so that the antenna that gives good reception condition is selected

The Distinction Over This Reference

The diversity receiver disclosed in this reference uses only one frequency band, and therefore, when the plurality of antennas are arranged close to one another spatially, the signals received by the different antennas may show similar frequency-selective fading characteristics. Thus, even by selecting an antenna that gives good reception condition, it is impossible to obtain satisfactory accuracy. By contrast, according to the present invention, data signals containing identical data can be transmitted in different carrier frequency bands. This makes it possible to select or synthesize a data signal transmitted in a carrier frequency for which the communication path is in good condition, and thus makes it possible to reduce the influence of frequency-selective fading.